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HINTS TO SETTLERS ON THE NORTH PLATTE PROJECT, NEBRASKA.

INTRODUCTION.

The conditions in the North Platte Valley are in many respects similar to those where irrigation is now established around Wheatland, Wyo., and Greeley, Fort Morgan, and Sterling, Colo. On account of the similarity in conditions, the experience of farmers in these districts furnishes a good source of information as to what may be expected in the North Platte Valley. Furthermore, throughout nearly the entire length of this Project, ditches established by private enterprise have been in successful operation for a number of years. These older ditches have already reclaimed the first bottom and lower terraces, leaving the land to be reclaimed by the Government enterprise mostly upon the second terrace and higher levels. The suggestions which follow are based upon the experience of successful farmers in the immediate vicinity of this Project and in other similar localities.

SOILS.

The soils of this area are nearly all deep sandy loam—in some places very sandy, and in some very limited areas quite heavy. Most of these soils are very fertile, and are well adapted to general farming, and especially to the production of small grain, potatoes, and alfalfa. The supply of nitrogen and humus, however, is not great, and for that reason under an intensive cropping system their producing power might soon be reduced unless careful attention is given to their treatment.

CROPS.

Small grain.—Oats have already proved to be an important and profitable crop under irrigation in this region. Barley is also successful, and the northern spring wheats give excellent yields. The value of winter wheat is not yet thoroughly demonstrated for this region, but it has been grown with more or less success. The cultivation of these crops is too well understood to need attention here.

Corn.—While this region is distinctly out of the corn belt, early varieties will give quite satisfactory yields, although it is not at all probable that as a general and profitable crop corn can compete with small grain, beets, and potatoes. However, such varieties as Pride of the North, Northwestern Dent, and Whitecap can nearly always be matured. Corn may prove a valuable secondary crop on account of the opportunity which it gives for freeing the land of weeds and the condition in which it leaves the soil.

Potatoes.—Potatoes have for a number of years been one of the most profitable crops in this region, and nearly all of the land now to be

brought under irrigation is well adapted to their production. The varieties which have given the best satisfaction are Rural, Pearl, and Carman. In case the first crop is grown without irrigation, however, the Early Ohio should be planted.

Sugar beets.—Sugar beets have been giving excellent returns at all points where tried, and with the establishment of a sugar factory, which will probably be accomplished in the near future, there is no doubt that beets will become one of the most important crops of the region. On some of the sandiest land, however, they are not likely to prove as successful as many other crops, a comparatively heavy soil being better adapted to their growth. On account of the labor involved in hauling beets, it is not generally considered profitable to grow them more than 3 or 4 miles from the factory or shipping point. There are many farms under this Project which are at present farther than this from the railroad. On such farms it is probable that beets will not become an important crop unless they are utilized for fattening sheep.

Alfalfa.—Alfalfa is one of the leading crops on all irrigated land in the Project and must continue to be a staple on all land for which water is available. The yields of hay are heavy and the quality excellent. The dryness of the climate enables the farmers to cure this crop in the best of condition and with a minimum of loss and of labor. Following the practices which have been worked out in other irrigated sections, it seems best to sow alfalfa in the spring with a grain crop. If sowed with barley, some early variety of oats, or winter wheat, a crop of hay may be secured after the grain is harvested. But if there is any doubt about water being available, alfalfa should be given the sole use of the ground the first year.

As a rotation crop—that is, as a means of keeping up the supply of humus and nitrogen in the soil—alfalfa must be the basis of permanent agriculture in this region. It should be given a prominent place on every farm from the start and should occupy a pretty definite position in rotation with other crops. Alfalfa hay is the best of roughage for cattle, sheep, and hogs, and is used for horses with good satisfaction by those who understand how to feed it. Horses unaccustomed to alfalfa hay are in danger of overfeeding and consequent injury if allowed all they will eat. Horses accustomed to it eat it in preference to grain, and if overfed some of them will scarcely eat grain at all, without which they have not sufficient strength for heavy work. With many horses it is necessary to limit the amount of hay and to withhold it entirely till after the grain has been eaten. If well-ripened alfalfa hay is used trouble is not often experienced. Good alfalfa hay contains more protein than the horse requires, and for this reason corn used with it gives better satisfaction than oats as a grain ration.

All the hay that is intended for horse feed should be allowed to stand until late bloom before cutting, which will generally be from two to three weeks longer than if it were to be used for cattle or sheep. The first crop is the best for horses. For idle horses and young stock alfalfa may profitably constitute the entire ration. As a pasture, alfalfa has no equal for hogs and is good for horses, but can not safely be pastured with cattle or sheep.

SEEDS.

For all grain crops and alfalfa it is suggested that seed grown in the vicinity will probably prove more satisfactory than seed secured from a distance. This is especially important with respect to corn. No con-

siderable acreage should ever be planted with corn that has not been grown for several years in the immediate vicinity. Potatoes grown on dry land are generally preferred for seed to those grown under irrigation.

ROTATIONS.

The following rotations are used by many successful farmers in several irrigated sections in Colorado and Wyoming where the conditions are practically the same as here:

1. FOUR-YEAR ROTATION.

Alfalfa, 1 year.
Potatoes, 1 year.
Beets, 1 year.
Grain seeded with alfalfa, 1 year.

2. SIX-YEAR ROTATION.

Alfalfa, 2 years.
Potatoes, 1 year.
Beets, 1 year.
Grain, 2 years. Alfalfa seeded with grain the second year.

In many irrigated sections alfalfa does not give as valuable money crops as potatoes, beets, and grain. But alfalfa should not be grown to sell. It should be grown for its fertilizing value and should be made into manure on the farm. For this reason it is plowed up as soon as its good effects can be secured. Beets can not conveniently follow alfalfa in the rotation unless the alfalfa roots are raked out and hauled off. The roots are not a serious matter in the potato field. Small grain is in danger of lodging after alfalfa, especially if the latter has been long established or has been pastured. Where beets are not grown the following rotation has given good results:

3. SIX-YEAR ROTATION.

Alfalfa, 2 years.
Potatoes, 2 years.
Grain, 2 years. Seeded with alfalfa the second year.

In this rotation corn can replace potatoes, either one year or both years. The first grain crop following potatoes is often so heavy as to smother alfalfa, and for that reason it is generally necessary to wait until the second grain crop after potatoes before seeding alfalfa.

On an 80-acre farm, after allowing for roads and the building lot, the first rotation would give each year 19 acres of alfalfa, 19 acres of potatoes, 19 acres of beets, and 19 acres of grain. The second rotation would give each year 25 acres of alfalfa, 12½ acres of potatoes, 12½ acres of beets, and 25 acres of grain. Either of these rotations will probably give good satisfaction. In case a large amount of manure is available, it might not be necessary to use alfalfa quite so often. It must be remembered, however, that the large crops grown under irrigation exhaust the soils rather more rapidly than do the crops usually grown where irrigation is not practiced. Beets are especially exhaustive and care must always be taken to maintain the fertility.

LIVE STOCK.

On account of the large amount of grazing land contiguous to this Project many may find it profitable to hire cattle pastured in the summer and bring them home to winter on alfalfa hay, thus furnishing a good market for hay and producing a large quantity of manure which will be needed on the land. Dairying may easily be made one of the most profitable industries here. During the summer, however, the cows will have to be kept in the yard and fed alfalfa hay or partially cured alfalfa. It might, however, be more profitable and convenient to sow

brome-grass with the alfalfa and pasture this mixture. The grass with the alfalfa makes a comparatively safe pasture for cattle.

Sheep feeding is likely to and should become an important method of marketing alfalfa hay and supplying the necessary manure. One of the main objects of sheep feeding in the Greeley district, now one of the greatest feeding centers of the country, is to make manure of the alfalfa.

There is no question that the production of hogs will be very profitable. Hogs should be pastured on alfalfa and fed all the alfalfa hay they will consume in seasons when there is no pasture. If a supply of corn is not available for fattening hogs, barley may be substituted for it with good results. Pasturing hogs on alfalfa will prove an excellent means of keeping up the soil. Every hog grower in this region should study carefully Bulletin No. 99 of the Nebraska Agricultural Experiment Station.

FRUIT.

Very little has been demonstrated in the way of fruit production in the vicinity of this Project, but there is no doubt that many varieties of fruit can be successfully produced for home consumption and for market. The most promising of these are probably red raspberries (Marlboro), strawberries, gooseberries, currants, cherries, and plums. Whether apple orcharding will be profitable is uncertain, as there is not sufficient evidence upon which to base a conclusion.

FINAL SUGGESTIONS.

Many unforeseen problems are always confronting the farmer, and many questions arise that can not be anticipated and that can be answered best by personal interview. Every farmer on this Project is within a few miles of farms that have been under irrigation for several years. For these reasons it is suggested that farmers not familiar with irrigation make friends with some experienced and successful owners of farms along the older ditches and go to them for advice.

SUMMARY.

Natural conditions in the North Platte Valley are in many respects similar to those of the irrigated districts in northern Colorado and Wyoming.

Irrigation has been established for several years throughout nearly the entire length of the Project.

The soils are fertile, sandy loams, but rather poor in humus.

Small grains are well established and corn can be grown at least as a secondary crop.

Beets and alfalfa are very successful.

Alfalfa should be grown on all land at least one or two years out of four or six, and should all be fed on the farm.

Use local-grown seed if possible.

Stock feeding and dairying are very promising, as is also the production of hogs.

Many fruits will probably prove successful.

Learn from experienced farmers.

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Approved:
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